THE ROSEVILLE BRICK PLANT

By DAVID B. CHANCELLOR, '30

A UNIQUE experiment in the field of ceramic engineering is about to be undertaken at the state-owned brick plant at Roseville, Ohio, by the Ceramic Engineering Department of Ohio State University in conjunction with the Ohio State University Engineering Experiment Station.

Scarcely any other industry is as old and as stable as ceramics, as it goes back five or ten thousand years in the history of Egypt, Mesopotamia, and other ancient civilizations. The first common brick to be manufactured in Ohio was made in Marietta in 1788, the first earthenware pottery at Cincinnati in 1799, and the first stoneware in Zanesville in 1808.

Next to agriculture, ceramics comprises the largest industrial field of the small unit type in the State of Ohio. Ohio's prestige in each branch of ceramic production is due to the high quality of wares produced in many small factories.

There are at present in this country about 2,500 clay products establishments employing on the average about 60 men each. Ours is the leading ceramics producing state in the Union, the next being Pennsylvania, New Jersey and Illinois from point of view of value. Ohio produces practically one-fourth of the country's ceramic products, the clay products alone having an annual value of $100,000,000. Ohio is also the leading state in glassware production.

Geologists estimate that there are 13,000 square miles of clay and 20,000 square miles of shale within the 40,000 square miles of land surface in this state. Some geologists even go so far as to say that Ohio's clay supply is inexhaustible. One favorable economic feature of Ohio's clay industry is the fact that nearly all the clay plants in the state are within or bordering a coal field. Often coal is drawn from the same mine entries as the clay itself. The general situation shows the need and the place of experimentation by the University for the benefit of this great industry.

For many years an experimental plant capable of turning out several thousand bricks a day has been in existence behind Lord Hall on the campus. However, the impracticability of bringing clay to this location in the absence of railroad tracks to this point, and the fact that the campus would be made unsightly by the smoke and dust from such a factory working full capacity has made the extensive operation of this plan inadvisable. Fortunately, at a site some fifty miles east of the capital and a few miles south of the city of Zanesville, there was a brick plant in the market for sale, and negotiations began.

After two years of litigation, including many injunctions and stockholders' suits, the ownership of the Roseville, Ohio, brick plant passed to the State of Ohio on January 8, 1927, on the payment of $35,000 to the owners by State Auditor Tracy. To Governor Donahey is due much of the credit for the acquirement of this plant by the State.

The Roseville brick plant now has a commercial unit capable of turning out a total of approximately 30,000 bricks a day. The plant is not in good condition, however, and it will probably be necessary to remodel it. On the premises of this plant are found clays of almost all kinds known in Ohio.

The state-owned brick plant at Roseville is under the control of the State Welfare Department and an arrangement between that department and Ohio State University is being worked out whereby an experimental plant will be erected there by the State Welfare Department, the equipment to be furnished by the University. It is probable that this experimental plant will be run by three men from the University who will be permanently located at Roseville, their salaries being paid by the University.

According to this arrangement, it is probable that the University will also have process control of this commercial plant to test in actual practice the results obtained in the experimental unit.

The State Welfare Department will have complete control of the products of both the experimental and commercial units of the plant, and it is anticipated that these products will be sold to the State, especially to the Highway Department. The Junction City plant, also controlled by the Welfare Department, sells its products to the State.

The labor for the Roseville plant, both experimental and commercial units, will probably be furnished by 300 state convicts, which would relieve the present situation at the Ohio Penitentiary to a considerable extent. In this connection it is interesting to know that for the first time in the history of the Welfare Department the manufacturers in the state are cooperating with the Welfare Department when the latter is using prison labor.

The unique feature of the whole plan is the prospect of an experimental plant, operated by the University, working in conjunction with an actual commercial plant. Such a set up would enable experimentation to extend from the laboratory through the experimental stages into the plant processing. This will make it possible for the University research organization to conduct investigations and prove the industrial applications in a way never before possible in connection with any ceramic teaching organization in this country. It is probable, also, that the plant will be available for student instruction. The experiment station will give the ceramic industries an institution with a function similar to that of the Wooster Agricultural Experiment Station, which solves for farmers problems that they themselves can not handle.

The findings of the investigations carried on at the Roseville plant will be given out to the ceramic industries in Ohio by the Ohio Ceramic Industries Association, a group of manufacturers of clay products.

At the request of the Ohio Ceramic Industries Association the Engineering Experiment Station has been conducting a research in the field of ceramic industries in this state. The general field of the survey has been divided into two sections—

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an investigation of mines, being undertaken by Prof. H. E. Nold, head of the Department of Mine Engineering, and an investigation of fabrication, by Prof. G. A. Bole, of the Department of Ceramic Engineering. These two men plan to visit 450 mines and plants at various points in the state. From this extensive survey it is believed that many valuable suggestions will be secured for the future experiments at the Roseville plant.